

IN THE SPECIFICATION:

The paragraph beginning at page 10, line 16, has been amended as follows:

-- As in Figure 1a, the LFSN filter 11 of a signal processor 10a filters the input electro-acoustical signal 22. Said input electro-acoustical signal 22 can be a digital signal, according to the present invention. Then a filtered output signal 24a of said ~~high-pass~~ LFSN filter 11 is sent to a loudspeaker 20 (typically, through a power amplifier 18). But, according to the present invention, the input electro-acoustical signal 22 is also fed to a displacement predictor block 14a. If the value of the vibration displacement exceeds a predefined threshold value (that is a predetermined criterion), a displacement prediction signal 26a from the block 14a is generated and provided to the parameter calculator ~~16~~ 16a which generates a parameter signal 28a in response to that signal 26a and then said parameter signal 28a is provided to the LFSN filter 11. Based on said parameter signal 28a, the transfer function of said LFSN filter 11 is modified appropriately and the output signal 24a of said LFSN filter 11 has the vibration displacement component attenuated based on said predetermined criterion. --

The paragraph beginning at page 10, line 19, has been amended as follows:

-- The LFSN filter 11 attenuates only low frequencies, which are the dominant sources of a large vibration displacement. The diaphragm-coil displacement can be predicted from the input signal 22 by the displacement predictor block 14a implemented as a digital filter. Generally, the required order of said digital filter is twice that of the number of mechanical degrees of freedom in the loudspeaker 20. The output of this filter is the instantaneous displacement of the diaphragm-coil assembly of the loudspeaker 20. The performance of the displacement predictor block 14a is known in the art and is, e.g., equivalent to the performance of the part 9 shown in Figure 2 of US Patent No. 4,327,250, "Dynamic Speaker Equalizer", by D. R. von Recklinghausen. Detailed description of the parameter calculator ~~1a~~ 16 is shown in an example of Figure 2b and discussed in detail later in the text. --

The paragraph beginning at page 13, line 16, has been amended as follows:

-- The Equation 5 can be written with a single characteristic sensitivity by defining

$$\sigma_{dp_m} = \sigma_c \sigma_{xvc} \quad (6),$$

wherein σ_{dp_m} is the metrically correct characteristic sensitivity, given by

$$\sigma_{dp_m} = \frac{a_g \phi_0}{R_{eb} k_t} (1 + a_{1c} + a_{2c}) \frac{1 - a_{1t} + a_{2t}}{1 - b_{1c} + b_{2c}} \quad (7),$$

wherein a_g is a gain of the power amplifier ~~18a-18~~ and D/A converter (not shown in Figure 2a but used in a case of the digital implementation) and k_t is a total stiffness of the loudspeaker 20 suspension (loudspeaker's suspension stiffness) including acoustic loading from any enclosure. --

The paragraph beginning at page 18, line 23, has been amended as follows:

-- The flow chart of Figure 6 only represents one possible scenario among many others. In a method according to the present invention, in a first step 30, the input electro-acoustical signal 22 is received by the signal processor 10a and provided to the LFSN filter 11 of said signal processor ~~10-10a~~ and to the displacement predictor block 14a of said signal processor 10. In a next step 32, the displacement predictor block 14a generates the displacement prediction signal 26a and provides said signal 26a to the peak detector 16a-1 of the parameter calculator 16a of said signal processor 10. In a next step 34, the peak displacement prediction signal 23 is generated by the peak detector 16a-1 and provided to the shelving frequency calculator 16a-2 of said parameter calculator 16a. In a next step 36, the shelving frequency signal 23 is generated by the shelving frequency calculator 16a-2 and provided to the sensitivity and coefficient calculator 16a-3 of the parameter calculator 16a. In a next step 38, the parameter signal 28a (e.g., which includes the characteristic sensitivity and polynomial coefficients) is generated by the sensitivity and coefficient calculator 16a-3 and provided it to the LFSN filter 11. In a next step 40, the output signal 24a is generated by

the LFSN filter **11**. Finally, in a last step **42**, the output signal **24a** is provided to the power amplifier **18** and further to the loudspeaker **20**. --